



Features

- Choice of Automatic and Manual ranges
- Thermocouple, RTD temperature measurement, High precision automatic cold junction compensation
- Three easy to use data records
- Automatic power off function
- Large screen LCD with white light backlit display
- Computer Interface
- Measuring rate 3/s

Technical Specification

Physical Specifications

Display (LCD)	Digital: 4000 counts primary display; 4000 counts secondary display; updates 3/second. Analog: 41 segments, updates 10/second.
Operating Temperature	5°C to 50°C
Storage Temperature	-10°C to 55°C
Relative Humidity	0°C to 30°C \leq 75% 30°C to 40°C \leq 50%
Battery Type	4xAAA alkaline battery, NEDA, LR03
Size	205x95x42mm (plus protector)
Weight	About 500g (plus protector)

Basic Specifications

Function	Range/Description	
DC Voltage	0 to 1000V	
AC Voltage, averaging converter	0 to 750V	
Basic Accuracy	DC Voltage: 0.2% AC Voltage: 0.5%	
DC Current	0 to 10A (constant measurement shall be limited within 15s, and log less than 15min)	
AC Voltage, averaging converter	0 to 10A (constant measurement shall be limited within 15s, and log less than 15min)	
Resistance	0 to 40 M Ω	
Capacitance	0 to 100 μ F	
Diodes	Open circuit Voltage: 1.1V to 1.6V Short Circuit Current: less than 0.2mA (Typical Value)	
Continuity	Beeps < 50 Ω Open Circuit Voltage: <0.45V Short Circuit Current: 130 μ A typical value	
TC(K Type) Test	-200°C to 950°C (-328°F to 1472°F)	
RTD(Pt100 Type) Test	-200°C to 700°C (-328°F to 1292°F)	
Frequency	0Hz to 100kHz	
Reading Storage	Save mode	500
	Log mode	1000
	Comp mode	1000

Detailed Accuracy Specifications

All the specifications apply to +18°C to +28°C, 10% to 70% RH unless stated otherwise.

All specifications assume a 5-minute warm-up period

Standard specification is valid for one year.

Accuracy specifications are given as \pm ([% of reading] + [number of least significant digits])

Note: “Counts” refers to the number of increments or decrements of the least significant Digit

DC Voltage Measurement

Range	Resolution	Accuracy	Remark
40.00mV	0.01 mV	0.5%+6	Measuring Impedance : >2.5GΩ Over voltage Protection: 1000V
400.0mV	0.1mV	0.2%+4	
4.000V	0.001V	0.2%+4	Measuring Impedance (Standard Value): 10MΩ<100pF Common mode rejection ratio: 50Hz or 60Hz > 100dB Normal mode rejection ratio: 50Hz or 60Hz > 45dB Over voltage : 1000V
40.00V	0.01V	0.2%+4	
400.0V	0.1V	0.2%+4	
1000V	1V	0.5%+4	

AC Voltage Measurement

Range	Resolution	Accuracy (40 ~ 400Hz)	Remark
400.0mV	0.1mV	0.5% +10	Specifications are valid from 5% to 100% of amplitude range 400mV is only confined to manual range AC conversion: averaging converter Measuring Impedance: 10MΩ(Standard Value)< 100 pF Common mode rejection ratio: 50Hz or 60Hz > 60dB Over voltage protection: 1000V
4.000V	0.001 V	0.5%+4	
40.00 V	0.01V	0.5%+4	
400.0 V	0.1 V	0.5%+4	
750V	1V	0.5%+4	

DC Current Measurement

Range	Frequency	Accuracy	Remarks	
400.0μA	0.1μA	0.2%+4	Measuring Impedance : 100Ω	Over voltage protection: 0.5A/250V fast-blow fuse
4000 μA	1μA	0.2%+4		
40.00mA	0.01mA	0.3%+4	Measuring Impedance : 1Ω	
400.0mA	0.1mA	0.2%+4		
4.000A	0.001A	0.5%+4	Measuring Impedance : 0.01Ω	Over voltage protection: 10A/250V fast-blow fuse
10.00A	0.01A	1.0%+4		

AC Current Measurement

Range	Frequency	Accuracy	Remarks	
400.0 μ A	0.1 μ A	1%+8	Measuring Impedance : 100 Ω	Over voltage : 0.5A/250V fast-blow fuse
4000 μ A	1 μ A	1%+8		
40.00mA	0.01mA	1.5%+8	Measuring Impedance : 1 Ω	
400.0mA	0.1mA	1%+8		
4.000A	0.001A	1%+8	Measuring Impedance : 0.01 Ω	Over voltage : 10A/250V fast-blow fuse
10.00A	0.01A	2%+8		

Resistance Measurement

Range	Frequency	Accuracy	Remark
400.0 Ω	0.1 Ω	0.2%+4	Open circuit voltage : 0.4V Guide lead resistance is excluded in the accuracy Over voltage protection : 1000V
4.000k Ω	0.001k Ω	0.2%+4	
40.00k Ω	0.01k Ω	0.2%+4	
400.0k Ω	0.1k Ω	0.5%+4	
4.000M Ω	0.001 M Ω	0.5%+4	
40.00 M Ω	0.01 M Ω	1.5%+4	

Capacitance Measurement

Range	Frequency	Accuracy	Remark
50.00nF	0.01nF	5%+50	To improve the accuracy of the low capacitance value, open the circuit, and then press SAVE/REL to automatically subtract the capacitance of the meter and the leads.
500.0nF	0.1nF	5%+5	
5.000 μ F	0.001 μ F	5%+5	
50.00 μ F	0.01 μ F	5%+5	
100 μ F	1 μ F	5%+5	

Frequency Count Accuracy

Function	Range	Resolution	Accuracy	Remark
Frequency	50.00Hz	0.01Hz	0.01%+3	Display updates 3 times/second (at >10Hz)
	500.0Hz	0.1Hz	0.1%+3	
	5.000KHz	1Hz	0.1%+3	
	50.00KHz	0.01KHz	0.1%+3	
	100.0KHz	0.1KHz	0.1%+3	
Duty cycle ratio	0.1% ~ 99%	0.1%	1%	

Temperature Measurement

Function	Input Range	Resolution	Accuracy	Remark
K	-200 to 950°C	1°C	1%+2(≤ 100°C) 1%+1(> 100°C)	By using ITS-90 temperature scale Note: The accuracy does not include the error of internal temperature compensation caused by a sensor. The range of the internal temperature compensation sensor is $\pm 2^\circ\text{C}$.

RTD Measurement

Function	Input Range	Resolution	Accuracy	Remark
Pt100	-200 to 700°C	1°C	0.5%+2	By using Pt100-385 temperature scale Measuring current 1mA Note: attached lead resistance is excluded

Diode Test

Range	Frequency	Accuracy	Short Circuit current	Open Circuit voltage
1.000V	0.001V	10%	Less than 0.2mA (typical value)	1.1V to 1.6V

Continuity Check

Range	Frequency	Accuracy	Short Circuit current	Open Circuit voltage
400.0Ω	0.1Ω	Beeps if the value is less than 50Ω	130μA (typical value)	< 0.45V

Peak Hold

Range	Accuracy	Response time
DCV	± 100 Counts	>1ms